Proposal Reviews

#224: Water Intake Screening and Intake Modifications at Coleman National Fish Hatchery

US Bureau of Reclamation

Final Selection Panel Review

Fish Screen and Passage Technical Review

Sacramento Regional Review

Environmental Compliance

Budget

Final Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP
Final Selection Panel Review

Proposal Number: 224

Applicant Organization: US Bureau of Reclamation

Proposal Title: Water Intake Screening and Intake Modifications at Coleman National Fish Hatchery

Please provide an overall evaluation rating.

Fund	
As Is	**-**
In Part	**-**
With Conditions	**-**
Consider as Directed Action	**-**
Not Recommended	**X**

Amount: **$0**

Conditions, if any, of approval (if there are no conditions, please put "None"):

None.

Provide a brief explanation of your rating:

The Selection Panel concurs with the Technical Review rating of not recommended and the Regional Review, which qualified its High rank for the proposal. They identified several concerns, which the Selection Panel shares. These concerns included; 1) the high price and the necessity of all of the proposed infrastructure, 2) the need to address Battle Creek Watershed Conservancy concerns regarding hatchery operations and land-ownership concerns, and 3) the need to review proposed infrastructure changes for importance to the Battle Creek restoration program.

The only public comment included a request that the Selection Panel consider the proposal for entire or partial funding. The consideration would be based on the fact that reviewers were mistaken in an assumption concerning the need for screening Intake 2. However, even assuming such a mistake, the reviewers noted other problems not resolved by comments offered.

The Selection Panel recognizes the potential importance of screening intakes and the need to restore listed salmonids to Battle Creek through the restoration project. However, there is a need to first address a number of important concerns.

Fish Screen and Passage Technical Review:

CALFED Bay-Delta 2002 ERP PSP
Fish Screen and Passage Technical Review

Proposal Number: 224

Applicant Organization: US Bureau of Reclamation

Proposal Title: Water Intake Screening and Intake Modifications at Coleman National Fish Hatchery

Review:

Please provide an overall evaluation summary rating:

Superior: outstanding in all respects;
Above Average: Quality proposal, medium or high regional value, and no significant administrative concerns;
Adequate: No serious deficiencies, no significant regional impediments, and no significant administrative concerns;
Not Recommended: Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Superior	**This is potentially an important project in an important location. If the project elements listed in Miscellaneous Comments are eliminated or scaled down to appropriate levels, this project would be ranked "Superior" and should be implemented on a fast track basis.**
-Above average	**It is STRONGLY recommended that an outside (independent) budget and value engineering review be conducted, however. The specific project elements which SHOULD be implemented include:** **--General: Complete environmental compliance (categorical CEQA exemption, pro forma EA; Continue public involvement; resolve Battle Creek Conservancy issues; Permitting; -- Designs/specifications, Intakes 1 and 3 ONLY; scale down effort**
-Adequate	**--Intake 1 Construction contract Phase I: New control gate, New wing wall at Coleman Powerhouse (omit trash rack), Security fencing, Re-assess need for trash rack; install if necessary**
XNot recommended	**--Intake 3 Construction contract, Phase II: Fish screen, Bank improvements, Install electrical, Remove existing intake and remodel building, Hydraulic monitoring ($35,000 maximum for this line item)** **--Intake 2 Construction contract, Phase III: just install sill, MINOR road improvements, and Bank improvements, IF still necessary**

1. **Location in terms of potential impact on fishery.** Is the project located where it will significantly benefit the fishery? Do current fish passage barriers or water diversions there harm large numbers of fish? What species of anadromous fish are present? Is the project located where these species are in their most vulnerable life stages? Will it benefit other species of fish or the waterway's community and ecosystem? Does it restore and protect natural habitats or habitat values? Will its benefits be long-term, or short-lived? Is its biological effectiveness clearly demonstrable?

   *** Is the project located where it will significantly benefit the fishery?**

   Yes. Critically located on lower Battle Creek below winter run chinook, steelhead, fall run chinook, spring run chinook and late fall run chinook habitat; downstream of a major winter run chinook and steelhead restoration investment.

   *** Do current fish passage barriers or water diversions there harm large numbers of fish?**

   Yes. However, a major CalFed investment in Battle Creek restoration will be addressing and rectifying these problems.

   *** What species of anadromous fish are present?**

   Winter run chinook, steelhead, fall chinook late fall chinook, spring chinook

   *** Is the project located where these species are in their most vulnerable life stages?**

   No, except possibly fall run chinook. Salmon are most vulnerable in incubation / early rearing and adult marine life stages; most spawning / incubation / early rearing for all but fall run is upstream of the immediate project area. Steelhead are most vulnerable in incubation / early rearing; most habitat for these life stages of steelhead is upstream of the immediate project area.

   *** Will it benefit other species of fish or the waterway's community and ecosystem?**

   This project will protect a major anadromous rehabilitation investment, including habitat restoration.

   *** Does it restore and protect natural habitats or habitat values?**

   This project will protect a major anadromous rehabilitation investment, including habitat restoration.

   *** Will its benefits be long-term, or short-lived?**

   Long term. Although not specified, assume a project life of 25-50 years.

   *** Is its biological effectiveness clearly demonstrable?**

   Yes, although the funding request for the Monitoring Plan is clearly excessive.

2. **Diversions taking a greater proportion of flow.** If the project is a fish screen, is the size of the diversion to be screened a significant proportion of the waterway's discharge?

Yes, during low or base flow conditions. Hatchery water requirements will divert 20-40% of "available flow" (mean monthly flow) from July through December and 14-17% of "available flow" from January through April. May and June are months of least water requirements for the hatchery.

3. **Implementability** (minimal legal, regulatory or technical obstacles): Does the project use proven and existing technology, or unproven and experimental technology? Can it be implemented in a timely fashion, or are protracted delays anticipated? Are project partners, including consultants and subcontractors, qualified? Will legal, regulatory, or technical obstacles impede it? Can any adverse effects be reversed or adequately mitigated? Does it enjoy public support? Is it compatible with other programs and projects, which are part of an integrated restoration program for the waterway? Does it have synergistic effects with ongoing programs?

   ***Does the project use proven and existing technology, or unproven and experimental technology?**

   Proven technology

   *** Can it be implemented in a timely fashion, or are protracted delays anticipated?**

   Uncertain - proponents have a very poor track record for timely execution, except for USBR's excellent performance implementing the Livingston Stone facility.

   *** Are project partners, including consultants and subcontractors, qualified?**

   Uncertain

   *** Will legal, regulatory, or technical obstacles impede it?**

   Technical obstacles may impede this project if the scope and scale issues are not quickly resolved (see below). Some local opposition issues remain unresolved.

   *** Can any adverse effects be reversed or adequately mitigated?**

   Yes

   *** Does it enjoy public support?**

   Mixed. There is some local "concern" over the project and the effects of current hatchery operations and practices on Battle Creek restoration plans.

   *** Is it compatible with other programs and projects, which are part of an integrated restoration program for the waterway?**

   Not incompatible.

   *** Does it have synergistic effects with ongoing programs?**

   Yes. Helps protect a major CalFed habitat and fish population restoration investment.

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

NO. The budget and scope/scale of this project is clearly excessive in many respects. Several major elements are either unnecessary or are far out of proportion to the risk to fish resources (see below). Essentially all the potential benefit of this project could be achieved with approximately 50% of the proposed funding.

5. **Partnerships/Opportunities.** Does the project fully involve appropriate partners? Are the applicants willing participants? Are other cost-sharing funds available, and fully exploited?

   *** Does the project fully involve appropriate partners?**

   Uncertain.

   *** Are the applicants willing participants?**

   Yes.

   *** Are other cost-sharing funds available, and fully exploited?**

   Uncertain. Some USBR funding may be appropriate, given the hatchery's status as mitigation for Shasta Dam.

6. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

   *** How did the regional panel(s) rank the proposal (High, Medium, Low)?**

   High, with significant reservations. This project is considered a "necessary component" of the Battle Creek Restoration Project which is a high priority item for the CalFed ERP. However, concerns over the HIGH PRICE and NECESSITY OF ALL PROPOSED INFRASTRUCTURE IMPROVEMENTS were noted by the Regional Panel reviewer. The reviewer stated that some infrastructure improvements should be "closely reviewed" for need and importance.

   *** Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?**

   Yes. The RP reviewer noted linkages to the high priority Battle Creek Restoration Program. The RP also noted that concerns of some local interests, especially the Battle Creek Conservancy, that hatchery operations "could substantially impede achievement of the objectives of the Battle Creek restoration program" and that these concerns have not yet been resolved.

7. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

   Some. Several permit requirements in addition to those noted in the proposal were noted by the Environmental Compliance reviewer. In addition, the budget review conducted by USBR, one of the proposal partners, points out limited detail associated with individual project elements.

Miscellaneous comments:

This proposal is for funding to modify and upgrade three water supply intakes for the Coleman National Fish Hatchery on Battle Creek. Several major components appear to be unnecessary or excessive. The notes below outline one way to scale back the project, reduce costs, and still protect fish effectively:

Of the three intakes, the furthest upstream ("Intake 1") is associated with the tailwater of a PG&E hydro facility (Coleman Powerhouse), which will supply anadromous fish-free water to the intake. For this reason, no fish screen is proposed for this site, but a trash rack is. NO justification is presented for the inclusion of a trash rack for water that has been run through a hydro generation system.

A picket weir replacement is proposed to keep adult anadromous fish from being falsely attracted to excess water re-directed to Battle Creek at Intake 1. The price for this structure is given as $380,000, of which $210,000 has already been secured by the proponents. It is unclear whether any of the requested funds will be allocated to the picket weir replacement. If so, the design should be reviewed from a value engineering perspective.

Intake 2 is and will be for EMERGENCY WATER SUPPLY ONLY, and will be in use only if Intake 1 fails AND Intake 3 (further downstream) is of insufficient capacity to meet the hatchery¡¦s needs. The proposal indicates that events leading to the operation of Intake 2 include load rejection or other emergency shut-down of PG&E's Coleman Powerhouse and scheduled routine maintenance of the hydro plant and its conveyance system. This is NOT CORRECT. Emergency outages of the canal system feeding the hydro plant are generally short-lived, and would result in short-term (usually several hours) operation of Intake 2. However, scheduled maintenance of the hydro facility takes place in May and June, and during these months Intake 3 is fully capable of supplying ALL of the hatchery's needs. An intermal turbine bypass in the Coleman Powerhouse is activated automatically in in the event of load rejection or other turbine malfunction, preserving flow from Coleman Canal into the hatchery water supply conveyance. In addition, the Battle Creek Restoration Plan calls for a bypass around the Inskip Powerhouse from the Inskip Canal to the Coleman Canal. This would further reduce the frequency/duration of deficit in the hatchery water supply, even when both the Inskip and Coleman powerhouses are shut down due to load rejection or some other non-scheduled reason. Essentially, the only significant interruption of the CNFH water supply at Intake I would be in the case of canal system failure (not turbine failure), which is a rare event. The proposal gives 412 hrs/yr (equivalent to 17.2 days/yr) based on HISTORICAL records, as the amount of time that Intake 1 would be off line, implying that this would be the amount of time that Intake 2 would be operating. This is NOT CORRECT, since for the majority of this time, Intake 3 would be fully capable of meeting all hatchery needs, and would be capable of meeting a substantial portion of total needs during non-scheduled emergency outages at the Inskip Powerhouse. This is because the Coleman Powerhouse bypass could continue to supply water in most cases. Thus, Intake 2 would be operational ONLY during emergency canal failure, NOT scheduled maintenance outages or load rejection (turbine failure) and then would supply only a portion of the hatchery's needs. The anadromous fish "take" analysis presented in the proposal is apparently based on the total number of HISTORICAL hours of emergency plus planned shut-down of the hydro facility with reliance on Intake 2 for the hatchery water supply. This would not be the case; the "take" analysis appears to be seriously flawed. The proposed screening of Intake 2, including associated infrastructure additions and modifications, would consume at least $2.5 million. This is an extremely high price to pay for an emergency-only water supply that would at worst be in operation only a few hours at a time, with cumulative worst case operation of only a few days out of the year. The flap gate at Intake 2 should remain in place and some minor access improvements should be made (NOT the footbridge and not major road improvements). The rest

of the infrastructure changes associated with this project element should be omitted (naturally, the $318,653 for construction administration/inspection for this element should be adjusted downward appropriately). Instead, NMFS should prepare a Take Statement reflecting the actual probabilities of significant take of protected anadromous species, considering a revised analysis of actual time and flow quantity of Intake 2 operation (NOT the time Intake 1 would be off line). Therefore, there is insufficient technical justification for this project element.

Infrastructure changes associated with Intake 2 include a "sill dam" for the stated purpose of protecting against excessive channel degradation immediately downstream of the intake. This is in an area where a local landowner makes a "push-up dam" by using heavy equipment in the stream channel in order to provide for sufficient flow into a small diversion canal. According to a scour analysis cited by the proposal, in the absence of this activity, a 10-year succession of 2.3 yr recurrence interval floods "could" result in scour of the present stream bed elevation by approximately 4 ft. It is implied that this would reduce the capacity of Intake 2 to an unacceptable level. It is noted here that the probability of a 10-year succession of 2.3 year recurrence interval events (with no aggrading years intervening) is extremely remote. The cost of this infrastructure item is given as $150,000. Although a relatively small item in the overall request, the case is not made that this item would convey significant benefit. If the purpose of this item is actually to do away with the annual landowner activity in the stream, then this justification should be put forward in a separate funding request to CalFed or other funding source. If the purpose is actually to protect the capacity of Intake 2, the case should be better supported. In the interim, if stream scour actually occurs to the extent that the capacity of Intake 2 becomes threatened (say, eight successive years of scour to, say 3 ft below present grade), remedial action could then be taken. This could be pushing up bed materials, as is done presently, constructing a sill structure or lowering the invert of the rectangular orifice at Intake 2.

The "remove building" line item appears twice in the budget for Intake 3, once on its own and once in association with "remove existing intake". It is uncertain if this is a typographical error or if the removal of the building was budgeted twice. In addition, this is inconsistent with the proposal text which calls for remodeling the existing building to make it more attractive.

"Hydraulic and biological monitoring" is given as a line item for both Intake 2 and Intake 3, and an estimated 1,000 person-hours is allocated for EACH of these exercises, with a total project cost of $370,000. This appears to be greatly in excess of what should be needed to establish the proper operation and efficacy of screens of standard, approved design. The monitoring of a screen at Intake 2 should not be needed since the screen should not be built (see above). Hydraulic monitoring and verification of proper function (e.g., no "hot spots") of any screen of the size contemplated for this project should not consume more than about 10 person-days unless major design problems are encountered, which should be covered by a performance bond or other similar instrument. Although no monitoring plan has been outlined to date, the proposal suggests that juvenile fish "salvage" operations conducted within the hatchery water supply system be continued for "several years" and that results (anticipated to be at or near zero) be compared to previous salvage efforts. Biological monitoring of fish screen performance in this case is not necessary. As is pointed out in a footnote on p. 18, NMFS routinely waives biological performance monitoring for screens designed and operated in accordance with that agency's criteria and inspected by an agency representative or designee. Indeed, NMFS' 4(d) Final Rule explicitly exempts such installations from monitoring on the presumption of efficacy by the agency. Even if monitoring of benign efficacy (absence of injury, etc.) were required, this could be accomplished for several life stages with large sample sizes with a few man weeks' effort. The line items in this proposal are clearly excessive, and the requested level of funding should not be

granted.

In addition to the unscreened Coleman NFH water sources noted in this proposal, there is a small (about 10" dia.?) pipe connecting Battle Creek with the head of Coleman Canal. The precise location of this pipe is a few feet upstream of the water level control weir at the hatchery water supply intake gallery. The present purpose of this pipe is unknown to the reviewer, but some water flows from the creek to the canal, as indicated by water surface roiling. This pipe should be sealed, since the amount of water supplied appears to be insignificant compared to that supplied from the Inskip Powerhouse and it constitutes an unscreened diversion.

Sacramento Regional Review:

Proposal Number: 224

Applicant Organization: US Bureau of Reclamation

Proposal Title: Water Intake Screening and Intake Modifications at Coleman National Fish Hatchery

Overall Ranking: **-**Low **-**Medium **X**High

Provide a brief summary explanation of the committee's ranking:

This project is viewed as a necessary component of the Battle Creek Restoration Project, a high priority for the CALFED ERP. There are some concerns about the high price of the project and whether or not all the proposed infrastructure improvements are necessary.

1. Is the project feasible based on local constraints?

   XYes **-**No

   How?

   Project involves proven fish screen technology and other standard construction related improvements to hatchery infrastructure.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

   XYes **-**No

   How?

   The Battle Creek Restoration project is a stated priority of the CALFED ERP.

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

   XYes **-**No

   How?

   This project has been developed in cooperation with the Battle Creek Working Group and is deemed a necessary component of the overall restoration effort on Battle Creek.

4. Does the project adequately involve local people and institutions?

   XYes **-**No

   How?

The Battle Creek Working Group and the Battle Creek Conservancy have been discussing ways to resolve landowner concerns over Coleman Hatchery operations and their (landowners) belief that hatchery operations could substantially impede achievement of the objectives of the Battle Creek restoration program. It is our understanding that those concerns have not yet been resolved.

Other Comments:

1. It is imperative that, in moving forward with the BC Restoration Program, CALFED must address the concerns of the Battle Creek Conservancy with regard to Coleman Hatchery operations and other possible concerns of landowners in the watershed. 2. The project is very expensive and some of the proposed infrastructure improvements should be closely reviewed to determine their connection and importance to the overall BC Restoration Program.

Environmental Compliance:

Proposal Number: 224

Applicant Organization: US Bureau of Reclamation

Proposal Title: Water Intake Screening and Intake Modifications at Coleman National Fish Hatchery

1. Are the legal or regulatory issues that affect the proposal identified adequately in the proposal?

   XYes **-**No

   If no, please explain:

   Obtaining a 2081/Incidental Take Permit also requires obtaining a Scientific Collecting Permit.

   Possibly need State Lands Commission Land Use Lease.

   No NCCP required. Under State Permits and Approvals, next to CESA Compliance:NCCP, remove "required" and leave blank.

2. Does the project's timeline and budget reflect adequate planning to address legal and regulatory issues that affect the proposal?

   XYes **-**No

   If no, please explain:

   Budgeting and Timeline for obtaining permits and environmental documentation is adequate.

3. Do the legal and regulatory issues that affect the proposal significantly impair the project's feasibility?

   -Yes **X**No

   If yes, please explain:

Other Comments:

Budget:

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1. Does the proposal include a detailed budget for each year of requested support?

   XYes **-**No

   If no, please explain:

2. Does the proposal include a detailed budget for each task identified?

   XYes **-**No

   If no, please explain:

3. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

   -Yes **X**No

   If no, please explain:

   Limited expense component detail is provided.

4. Are appropriate project management costs clearly identified?

   XYes **-**No

   If no, please explain:

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

   XYes **-**No

   If no, please explain (for example, are costs to be reimbursed by cost share funds included in the budget summary).

6. Does the budget justification adequately explain major expenses?

   -Yes **X**No

If no, please explain:

No details provided on construction costs or basis for these estimated costs. Non-expendable equipment costs are not detailed beyond an item listing.

7. Are there other budget issues that warrant consideration?

-Yes **X**No

If yes, please explain:

Other Comments: